



UNITED STATES PATENT AND TRADEMARK OFFICE

[Handwritten signature]

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/831,025

12/11/2001

Friedrich Boecking

R.35976

8376

2119

7590

01/28/2004

RONALD E. GREIGG
GREIGG & GREIGG P.L.L.C.
1423 POWHATAN STREET, UNIT ONE
ALEXANDRIA, VA 22314

EXAMINER

GANEY, STEVEN J

ART UNIT

PAPER NUMBER

3752

DATE MAILED: 01/28/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/831,025

Applicant(s)

BOECKING, FRIEDRICH

Examiner

Steven J. Ganey

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-30 and 32-42 is/are rejected.
- 7) ☒ Claim(s) 31 and 43-47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claims 24 and 37 are objected to because of the following informalities: Both claims are duplicates of each other and depend from claim 23. Therefore, claim 37 appears to be redundant and should be canceled or claim 37 should depend from claim 36. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 22 and 38-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 22, line 2, the phrase "the base surface" lacks antecedent basis.

In claims 38, line 4 and claims 39-41, line 1, the phrase "the blind hole" lacks antecedent basis. It appears that these claims should depend from claim 23.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

Art Unit: 3752

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 18, 19 and 30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,669,117.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they both claim an annular groove on the end of a nozzle needle; a nozzle needle seat in the shape of a truncated cone and an injection orifice in the nozzle needle seat. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the claimed invention in claims 18, 19 and 30 of the instant invention, since these claims are merely broader in scope than claims 1-3 of U.S. Patent No. 6,669,117 and are fully encompassed in claims 1-3 of U.S. Patent 6,669,117.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 18-24, 28, 35 and 37 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by EP0283154.

Art Unit: 3752

EP0283154 shows an injection nozzle comprising all the claimed features of the instant invention.

8. Claims 18-20, 22, 23, 27, 29, 30, 32 and 42 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Stevens.

Stevens shows an injection nozzle comprising all the claimed features of the instant invention.

9. Claims 18, 19, 22, 30 and 42 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mock.

Mock shows an injection nozzle comprising all the claimed features of the instant invention.

10. Claims 18-24, 28 and 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by DeLuca.

DeLuca shows an injection nozzle comprising all the claimed features of the instant invention, note groove 35 and Figures 5 and 5A.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 25, 26, 38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP0283154.

Art Unit: 3752

EP0283154 discloses all the featured elements of the instant invention, except for the depth and width dimension ranges for the annular groove 22. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the width of the groove approximately 0.16 mm to 0.24 mm and the depth of the annular groove approximately 0.08 mm to 0.14 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

13. Claims 25, 26, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens.

Stevens discloses all the featured elements of the instant invention, except for the depth and width dimension ranges for the annular groove 26. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the depth of the annular groove less than the width of the annular groove, the width of the groove approximately 0.16 mm to 0.24 mm and the depth of the annular groove approximately 0.08 mm to 0.14 mm or 0.04 mm to 0.07 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Allowable Subject Matter

14. Claims 31 and 43-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 3752

15. Claims 39 and 41 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

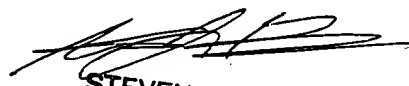
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fath et al and Hofmann et al shows fuel injection nozzles with needles having grooves. Ushimura shows a fuel injection valve with a mini-blind or micro-blind hole. Zeuch et al shows a fuel injection valve with various nozzle needle and valve seat cone angle arrangements.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven J. Ganey whose telephone number is (703) 308-2585. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar, can be reached on (703) 308-2087. The fax phone number for this Group is (703) 872-9306.

Art Unit: 3752

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



STEVEN J. GANEY
PRIMARY EXAMINER

1/24/04

sjg

1/24/04